III. CLAIM AMENDMENTS

1. (Original) A method of manipulating an optical signal, comprising the steps of:

a) splitting the optical signal into a first signal and a second signal,

b) using the second signal as a signal undelayed with respect to the optical signal,

c) delaying the first signal with respect to the second signal,

d) splitting the first signal into a first and a second part,

e) using the second part of the first signal as a delayed signal, and

f) repeating steps a)- d) with the first part of the first signal.

2. (Currently Amended) The method of claim 1, further comprising the steps of:

- delaying the first signal by letting the first signal travel a different path ~~(9)~~ than the second signal.

3. (Currently Amended) The method of ~~the claims 1 or 2~~claim 1, further comprising the steps of:

- the ratio of the first and the second part ranging between 5:95 and 50:50.

4. (Currently Amended) The method of ~~any one of the claims 1 - 3~~claim 1, further comprising ~~the steps of:~~

~~- performing all splitting operations at the same splitting point (4, 4a, 4b).~~

5. (Currently Amended) A method of determination of properties of an optical device under test, comprising the steps of:

- splitting an initial light beam into a measurement beam ~~(22)~~ and a reference beam ~~(20)~~ of an interferometer,

- coupling the measurement beam ~~(22)~~ into the optical device under test ~~(24)~~,

- letting the reference beam ~~(20)~~ travel a different path ~~(9)~~ as the measurement beam ~~(22)~~ by manipulating the reference beam ~~(20)~~ according to the method of ~~any one of claims 1 to 4~~claim 1,

- superimposing the reference beam ~~(20)~~ and the measurement beam ~~(22)~~ to produce interference in a resulting superimposed light beam ~~(26)~~,

- detecting the power of the resulting superimposed light beam ~~(26)~~ as a function of frequency when tuning the frequency of the initial light beam from a minimum to a maximum of a given frequency range,

- deriving optical properties of the device under test ~~(24)~~ from the frequency dependency of the detected powers.

6. (Currently Amended) A software program or product~~, preferably~~ stored on a data carrier, for executing the method of one of ~~the~~ claims 1~~, to 4~~ when run on a data processing system such as a computer.

7. (Currently Amended) An apparatus for manipulating an optical signal, comprising:

a first splitting device ~~(4, 4a, 4b)~~ for splitting the optical signal into a first signal and a second signal,

a delaying device ~~(9)~~ for delaying the first signal with respect to the second signal so that the second signal can be used as a signal undelayed with respect to the optical signal,

a second splitting device ~~(4, 4a, 4b)~~ for splitting the first signal into a first and a second part, so that the second part of the first signal can be used as a delayed signal, and

a repeating device ~~(9)~~ for providing the first part of the first signal to the first splitting device ~~(4, 4a, 4b)~~.

8. (Currently Amended) The apparatus of claim 7, wherein the first ~~(4)~~ and the second ~~(4)~~ splitting devices are identical.

9. (Currently Amended) The apparatus of ~~the claims 7 or 8~~claim 7, wherein the splitting devices comprise a beam splitter or coupler ~~(4, 4a, 4b)~~.

10. (Currently Amended) The apparatus of ~~any one of the claims 7 - 9~~claim 7, wherein the delaying device is a loop ~~(9)~~ connected with the splitting devices ~~(4, 4a, 4b)~~.

11. (Currently Amended) The apparatus of ~~any one of the claims 7 - 10~~claim 7, wherein the delaying device ~~(9)~~ and the repeating device ~~(9)~~ are identical.

12. (Currently Amended) An apparatus for determination of properties of an optical device under test, comprising ~~the steps of~~:

a first beam splitter for splitting an initial light beam into a measurement beam ~~(22)~~ and a reference beam ~~(20)~~ of an interferometer,

a connecting device for coupling the measurement beam ~~(22)~~ into the optical device under test ~~(24)~~,

an apparatus for manipulating an optical signal according to ~~any one of~~ claims 7 ~~to 11~~ for letting the reference beam ~~(20)~~ travel a different path ~~(9)~~ as the measurement beam ~~(22)~~,

a second beam splitter for superimposing the reference beam ~~(20)~~ and the measurement beam ~~(22)~~ to produce interference in a resulting superimposed light beam ~~(26)~~,

a detector ~~(8, 8-2)~~ for detecting the power of the resulting superimposed light beam as a function of frequency when tuning the frequency of the initial light beam from a minimum to a maximum of a given frequency range,

a processing unit ~~(12, 12-2, 12-3a, 12-3b)~~ for deriving optical properties of the device under test ~~(24)~~ from the frequency dependency of the detected powers.